Lecture 13 Outline

Reading: Dawson, §1–2

Assignments due:
- Final term paper due March 3 in class
- Lab #6 (“Web Pages with Style”) due Feb. 22 at 11:55PM

1. Greetings and felicitations!
2. Security: how they attack your system
   a. Casing the system: port scan, guessing passwords, sniffing information
   b. Identifying targets: servers on ports
   c. First step: get on the system
   d. Next step: escalate privileges
3. The nasty stuff
   a. Spyware
   b. Adware
   c. Computer malware
4. How antivirus software works
   a. Signature scanners
   b. Heuristic detectors look for code triggered by events, or disk writes bypassing the OS
   c. Memory resident monitor for virus actions.
5. Spam
   a. What is it
   b. How they find you . . . or do they?
6. How antispam software works
   a. Blacklists, whitelists
   b. Content filtering
   c. Bayesian filter of content for spam characteristics
7. How firewalls work
   a. Block ports
   b. Packet filtering based on source and destination, and packet patterns.
   c. Content filtering
8. Cryptography
   a. Classical ciphers: sharing a key
   b. Public key ciphers: a public and private key
   c. Digital signatures
9. Introduction to the Python programming language
   a. Running the interpreter
   b. Program that prints "hello world"
   c. Example of syntax errors
   d. Comments and spaces
10. Quotes and strings
    a. Basics
    b. Escaping characters
    c. Handling long lines
    d. Printing several lines at once
    e. Suppressing trailing newline
    f. Concatenating strings
11. Numbers
    a. Integer arithmetic
    b. Floating point arithmetic
    c. Conversions